

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings of claims in the application.

**LISTING OF CLAIMS:**

1. (Currently Amended) A method for smoothing and polishing a to-be-smoothed surfaces, comprising:

a first treatment step comprising remelting the to-be-smoothed surface using energetic radiation while employing first treatment parameters at least once down to a first remelting depth which is greater than a structural depth of to-be-smoothed structures of said to-be-smoothed surface, wherein the using of energetic radiation includes using continuous energetic radiation or pulsed energetic radiation, with a pulse duration of  $\geq 100 \mu\text{s}$  such that said surface is remelted down to a first remelting depth of about 5 to  $100 \mu\text{m}$ , and

a second treatment step comprising leveling micro-roughness remaining on said surface after said first treatment step by remelting the micro-roughness using said energetic radiation while employing second treatment parameters down to a second remelting depth, and by evaporating roughness peaks, wherein the second remelting depth is less than said first remelting depth.

2. (Cancelled).

3. (Previously Presented) A method according to claim 1, including selecting said first treatment parameters so that no ablation of material occurs.
4. (Currently Amended) A method according to claim 1 [[2]], wherein the using step includes using pulsed laser radiation with a pulse duration of  $\leq 1 \mu\text{s}$ .
5. (Previously Presented) A method according to claim 1, wherein the remelting step includes remelting said surface in said first treatment step down to a first remelting depth of approximately 10 to 80  $\mu\text{m}$ .
6. (Currently Amended) A method according to claim 1 [[2]], wherein the remelting of said surface in said second treatment step includes remelting said surface down to a second remelting depth of maximally 5  $\mu\text{m}$ .
7. (Previously Presented) A method according to claim 1, wherein the remelting step includes remelting said surface in said first treatment step multiple times in succession.
8. (Previously Presented) A method according to claim 7, wherein with each new remelting step, selecting said first remelting depth less deep than in the previous remelting step.

9. (Previously Presented) A method according to claim 7, wherein the remelting step includes leading said energetic radiation in parallel paths over said surface with successive remelting steps of a section of said surface being carried out with paths turned at an angle.
10. (Previously Presented) A method according to claim 1, wherein treatment in said first treatment step occurs successively in a multiplicity of adjacent sections of said surface, with the treatment parameters being changed continuously or in steps towards a border of said sections in such a manner that said first remelting depth decreases to said border of said sections.
11. (Previously Presented) A method according to claim 1, wherein in order to retain edges on said surface, said first treatment parameters of said first treatment step are changed continuously or in steps in such a manner that said first remelting depth decreases toward said edges.
12. (Previously Presented) A method according to claim 1, wherein the remelting step includes leading said energetic radiation on one or a multiplicity of meandering paths over said surface.
13. (Currently Amended) A method according to claim 1 [[2]], including impinging said surface with protective gas during said first and said second treatment steps.

14. (Previously Presented) A method according to claim 1, wherein treatment occurs  
with a beam cross section in form of a line or with a rectangular beam cross section  
of said energetic radiation.
15. (Previously Presented) A method according to claim 1, further comprising  
preheating said to-be-smoothed surface before remelting.
16. (Previously Presented) A method according to claim 1, including selecting said  
first treatment parameters so that structures of significance of said to-be-smoothed  
surface are retained during remelting.